SUMMATION: A method of modifying standard microfilm cameras to permit accurate automatic photoelectric cutting of Xerox prints.

INTRODUCTION: In mass producing paper prints from microfilm, continuous Xerographic and photographic printers are rapidly replacing older step-by-step, frame-by-frame methods, due both to their greatly superior speed and (in Xerography) their use of inexpensive 20-pound sulfite paper. In order to obtain maximum utilization of these fast printers, however, some means of automatically cutting the rolls of finished prints into individual prints must be provided. While a number of automatic cutters for conventional "wet process" use exist, they have not been used for continuous printer chopping due to the nature of the process:

THE PROBLEM: In frame-by-frame printing, only the desired subject matter (e.g.: one page of a document) is included in the final print. All extraneous blank film and unused film area is masked off. As each frame is exposed, a small lamp and mask arrangement simultaneously exposes a rectangular area along the margin of the roll adjacent to the frame and perpendicular to the length of the roll. After processing and drying, the roll may be chopped into individual prints by a photoelectric-scanner controlled automatic cutter, since the cutting mark produced on the margin is a uniform intense black area -- the only such area along the margin, due to the masking.

In continuous printing this is impossible. Not only the document is printed, but also the background area, as well as all clear areas of the microfilm between and around each frame. This results in each frame of the roll of prints having non-uniform black areas at unpredictable intervals. The inability of the Xerographic printer to reproduce heavy solids compounds the problem by doubling the number of these black areas, reproducing only the leading and trailing edges of each one. In addition, no practicable, dependable method has been devised for introducing a cutting mark onto the paper roll in the Microfilm Head Xerox, since no framing is done -- both film and paper move continuously.

SUGGESTED SOLUTION: In approximately February of this year it was suggested by the undersigned that inasmuch as the bulk of microfilm received for printing by any government agency is produced within the control of that agency, a standard procedure could be adopted, involving a simple modification of Agency cameras. This adjustment consists of resetting the film pull-down clutch, decreasing the amount of film transported with each exposure. As a refinement, the viewing (framing) arrangement can be adjusted to coincide, if desired. The result of this adjustment is to eliminate the clear film between frames, since each frame will overlap a very small amount upon its neighbor. In addition to eliminating spurious signals, thus permitting automatic photoelectric cutting by standard machines, this system incidentally has the virtue of effecting a slight saving (approximately 5%) of microfilm, since the images may be more closely spaced.

It was further suggested that a cutting mark could be included in the microfilm frame by positioning a black line of predetermined width within the copy area, but extending transversely outward. The combination of this suggested procedure with the above paragraph greatly facilitates the reproducing of card files, since five or more cards, each with its own

signal line, may be photographed simultaneously on one frame of microfilm. The resulting paper prints from these frames will be automatically cut into individual cards. Where critical definition is not required, the use of greater reductions and subsequent re-enlargement magnifications would permit substantial savings in film and film storage, with no sacrifice of automatic production techniques.

TEST EVALUATION: Since these suggestions were first made, results of tests have proven very satisfactory. Steps are being taken to modify agency microfilm equipment in accordance therewith, and it has been reported that other government agencies are following suit. Present utilization of the system's full advantages has been delayed pending delivery of cutting equipment designed to handle the lightweight paper used in Xerographic reproduction. Trial runs made on card stock for available cutting equipment were highly satisfactory. A limited run on lightweight was tested on the cutting equipment which was subsequently ordered, with similar results.

NOTE: USE LETTEREX TO MAKE COPIES, IF THEY ARE REQUIRED.

EVALUATION OF EMPLOYEE SUGGESTION

SUGGESTION NUMBER

TO: EXECUTIVE SECRETARY, INCENTIVE AWARDS COMMITTEE

FROM: Administrative Staff, OL

ACTION RECOMMENDED

INDICATE ACTION RECOMMENDED BY PLACING ACTION NUMBER IN BOX [ ]

1. ADOPT FOR USE. (DATE ADOPTED _____)
2. ALREADY IN EFFECT BUT THIS SUGGESTION MAKES ADDED CONTRIBUTION. (SPECIFY BELOW)
3. DISAPPROVED FOR ADOPTION.
4. ALREADY IN EFFECT AND NO PART OF THIS SUGGESTION MAKES ADDED CONTRIBUTION.
5. REQUIRE FURTHER STUDY. (EXPECTED DATE OF COMPLETION _____)
6. OTHER (SPECIFY BELOW)
7. REFER SUGGESTION TO _____ (OTHER COMPONENT)

REASONS FOR RECOMMENDATION

In order to guide the Incentive Awards Committee in making final determination, an analysis of the anticipated first year's savings and/or other benefits should be shown here. If applicable, indicate and explain below proposed disposition of savings as (1) allotment savings, (2) increased output at same cost or (3) application of resources saved to some other necessary activity. If suggestion contains intangible value, such as morale, safety, etc., please indicate the extent of the area which you think the suggestion will affect, i.e.: the immediate area, office-wide, Agency-wide. Attach additional sheet if more space is needed.

1. Suggestion No. 3803 has been adopted and is in use in the Printing Services Division. It is a technique which is enabling the Printing Services Division to further mechanize their production of microfilm prints. This suggestion will bring about a savings in labor in those cases where: (a) the microfilm is being produced on a planetary type camera such as the Recordak Microfilm Model "B" or "E" and (b) the resulting microfilm is printed on a #1 Xerox Copyflo. Microfilm roll prints thus produced have until recently been sheared from the roll manually. It is now possible, by utilizing this suggestion, to trim prints automatically on a special electronic cutter now nearing completion.

2. At the present time we know of no other reliable means of accomplishing the automatic cutting of these prints, and it is felt that the suggestion will have value not only to CIA but to other Government and commercial users of microfilm and microfilm prints as well.

3. The full value of this technique will not be apparent until (a) the new electronic print chopper is delivered and (b) more of the Agency's cameras, both at headquarters and overseas, have been altered as recommended. At the present time there are eight Agency cameras so altered. Components of the Agency which are using cameras of this type will be advised of this technique and will be asked to utilize it where applicable.

4. This suggestion has also been used on film being produced for the Vital Materials Program, so that automatic print chopping will be possible on this material in the event that these records must be reconstituted at a later date in hard copy form.

5. It is estimated that the manual shearing of prints of this type is now costing $3,000 annually and that an equivalent amount chopped automatically will cost $500.00. Thus a saving of $2,500 annually is indicated. Some of the more intangible benefits of the suggestion are as follows:

XXX CONTINUED ON ATTACHED SHEET

DATE

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22 AUG 1957

Approved For Release 2000/08/15 : CIA-RDP80-00832A000200080037-7

[redacted], Administrative Staff, OL

FORM NO. 244b REPLACES FORM 37-1048 WHICH MAY BE USED. (43)
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a. It will eliminate a serious production bottleneck in certain types of microfilm printing.

b. It will promote wider usage of microfilm as an intermediate for the reproduction of documents.

6. At the existing commercial Xerox microfilm printing establishments throughout the country, the chopping of prints is being accomplished manually. The current rate for this kind of chopping is about $1.00 per thousand documents. With the technique and cutter described above it would be possible for one man to chop 30,000 8" documents or about $30.00 worth of cutting in a day. For this reason, it is believed that the suggestion may find wide usage.

7. In regard to the eligibility of the suggestor for an award, it is felt that the suggestor's job description is primarily one of maintenance and repair and the designing and/or building of new equipment. However, this suggestion seems to be entirely beyond the scope of the suggestor's job responsibilities. Since this suggestion represents a new and valuable idea to the Agency and which will probably find use in other Government and commercial organizations as well as CIA, the suggestor should be considered for an award based upon the information furnished herein.